

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS:

1. (previously presented) A positioning system in a mobile communication network that provides position information for a positioning target in response to a positioning request from an external client device, the positioning system in the mobile communication network comprising:

at least one node device including a positioning response generation function unit which generates a response with the position information to said external client device based on request accuracy information that specifies a requested accuracy and request accuracy request class information that designates a class of treatment when the requested accuracy is not available, in which a first class of treatment specifies that an error is to be sent and a second class of treatment specifies that best available position information is to be sent.

2. (previously presented) The positioning system in the mobile communication network according to claim 1, wherein the first class of treatment requests said node device to respond the position information which does not fail to satisfy the requested accuracy.

3. (previously presented) The positioning system in the mobile communication network according to claim 1, wherein said

first class of treatment requests said node device to respond an error to said external client device, if the position information which satisfies the requested accuracy does not exist.

4. (previously presented) The positioning system in the mobile communication network according to claim 1, wherein of treatment requests said node device to respond the position information which is closest to said requested accuracy.

5. (previously presented) The positioning system in the mobile communication network according to claim 4, wherein said second class of treatment indicates to request said node device to respond an error to said external client device, if the position information does not exist.

6. (canceled)

7. (previously presented) The positioning system in the mobile communication network according to claim 1, wherein said positioning system further comprises a holding function unit for retaining said request accuracy request class information.

8. (original) The positioning system in the mobile communication network according to claim 1, wherein said positioning system further comprises a receiving function unit for receiving said request accuracy request class information transmitted by said external client together with the positioning request.

9. (original) The positioning system in the mobile communication network according to claim 1, wherein, if said external client has transmitted said request accuracy request

class information together with the positioning request, said positioning response generation function unit uses the request class information thereof to generate the response of said position information, whereas if said external client has not transmitted said request accuracy request class information together with the positioning request, said positioning response generation function unit uses request accuracy request class information held inside said positioning system in said mobile communication network to generate the response of said position information.

10. (previously presented) A positioning system in a mobile communication network that provides position information for a positioning target in response to a positioning request from an external client device, the positioning system in the mobile communication network comprising:

at least one node device including a positioning response generation function unit which generates a response with the position information to said external client device based on request freshness information that specifies a requested freshness and request freshness request class information that designates a class of treatment when the requested freshness is not available, in which a first class of treatment specifies that an error is to be sent and a second class of treatment specifies that best available position information is to be sent.

11. (previously presented) The positioning system in the mobile communication network according to claim 10, wherein the

first class of treatment requests said node device to respond the position information which does not fail to satisfy the requested freshness.

12. (previously presented) The positioning system in the mobile communication network according to claim 11, wherein said first class of treatment requests said node device to respond an error to said external client device, if the position information which satisfies the requested freshness does not exist.

13. (previously presented) The positioning system in the mobile communication network according to claim 10, wherein the second class of treatment requests said node device to respond the position information which is closest to said requested freshness.

14. (previously presented) The positioning system in the mobile communication network according to claim 13, wherein said second class of treatment indicates to request said node device to respond an error to said external client device, if the position information does not exist.

15. (canceled)

16. (previously presented) The positioning system in the mobile communication network according to claim 10, wherein said positioning system further comprises a holding function unit for retaining said request freshness request class information.

17. (original) The positioning system in the mobile communication network according to claim 10, wherein said positioning system further comprises a receiving function unit

for receiving said request freshness request class information transmitted by said external client together with the positioning request.

18. (original) The positioning system in the mobile communication network according to claim 10, wherein, if said external client has transmitted said request freshness request class information together with the positioning request, said positioning response generation function unit uses the request class information thereof to generate the response of said position information, whereas if said external client has not transmitted said request freshness request class information together with the positioning request, said positioning response generation function unit uses request freshness request class information held inside said positioning system in said mobile communication network to generate the response of said position information.

19. (previously presented) A positioning system in a mobile communication network that provides position information for a positioning target in response to a positioning request from an external client device, the positioning system in the mobile communication network comprising:

at least one node device including a positioning response generation function unit which generates a response with the position information to said external client device based on request accuracy information that specifies a requested accuracy and request accuracy request class information that designates a

class of treatment when the requested accuracy is not available, in which a first class of treatment specifies that an error is to be sent and a second class of treatment specifies that best available position information is to be sent, and request freshness information that specifies a requested freshness and request freshness request class information that designates a class of treatment when the requested freshness is not available, in which a third class of treatment specifies that an error is to be sent and a fourth class of treatment specifies that best available position information is to be sent.

20. (previously presented) The positioning system in the mobile communication network according to claim 19, wherein the first class of treatment requests said node device to respond the position information which does not fail to satisfy the requested accuracy.

21. (previously presented) The positioning system in the mobile communication network according to claim 20, wherein said first class of treatment requests said node device to respond an error to said external client device, if the position information which satisfies the requested accuracy does not exist.

22. (previously presented) The positioning system in the mobile communication network according to claim 19, wherein the second class of treatment requests said node device to respond the position information which is closest to said requested accuracy.

23. (previously presented) The positioning system in the mobile communication network according to claim 22, wherein said second class of treatment indicates to request said node device to respond an error to said external client device, if the position information does not exist.

24. (canceled)

25. (previously presented) The positioning system in the mobile communication network according to claim 19, wherein said positioning system further comprises a holding function unit for retaining said request accuracy request class information.

26. (original) The positioning system in the mobile communication network according to claim 19, wherein said positioning system further comprises a receiving function unit for receiving said request accuracy request class information transmitted by said external client together with the positioning request.

27. (original) The positioning system in the mobile communication network according to claim 19, wherein, if said external client has transmitted said request accuracy request class information together with the positioning request, said positioning response generation function unit uses the request class information thereof to generate the response of said position information, whereas if said external client has not transmitted said request accuracy request class information together with the positioning request, said positioning response generation function unit uses request accuracy request class

information held inside said positioning system in said mobile communication network to generate the response of said position information.

28. (previously presented) The positioning system in the mobile communication network according to claim 19, wherein the third class of treatment requests said node device to respond the position information which does not fail to satisfy the requested freshness.

29. (previously presented) The positioning system in the mobile communication network according to claim 28, wherein said third class of treatment requests said node device to respond an error to said external client device, if the position information which satisfies the requested freshness does not exist.

30. (previously presented) The positioning system in the mobile communication network according to claim 19, wherein the fourth class of treatment requests said node device to respond the position information which is closest to said requested freshness.

31. (previously presented) The positioning system in the mobile communication network according to claim 30, wherein said fourth class of treatment indicates to request said node device to respond an error to said external client device, if the position information does not exist.

32. (canceled)

33. (previously presented) The positioning system in the mobile communication network according to claim 19, wherein said



positioning system further comprises a holding function unit for retaining said request freshness request class information.

34. (original) The positioning system in the mobile communication network according to claim 19, wherein said positioning system further comprises a receiving function unit for receiving said request freshness request class information transmitted by said external client together with the positioning request.

35. (original) The positioning system in the mobile communication network according to claim 19, wherein, if said external client has transmitted said request freshness request class information together with the positioning request, said positioning response generation function unit uses the request class information thereof to generate the response of said position information, whereas if said external client has not transmitted said request freshness request class information together with the positioning request, said positioning response generation function unit uses request freshness request class information held inside said positioning system in said mobile communication network to generate the response of said position information.

36. (previously presented) The positioning system in the mobile communication network according to claim 19, wherein the second class of treatment requests said node device to respond the position information which is closest to said requested accuracy,

wherein the fourth class of treatment requests said node device to respond the position information which is closest to said requested freshness, and

wherein, if the position information which satisfies both the requested accuracy and the requested freshness does not exist, said node device responds the position information with the highest positioning accuracy to said external client device.

37. (previously presented) The positioning system in the mobile communication network according to claim 19, wherein the second class of treatment requests said node device to respond the position information which is closest to said requested accuracy,

wherein the fourth class of treatment requests said node device to respond the position information which is closest to said requested freshness, and

wherein, if the position information which satisfies both the requested accuracy and the requested freshness does not exist, said node device responds the position information with the newest positioning freshness to said external client device.

38. (previously presented) The positioning system in the mobile communication network according to claim 19, wherein the second class of treatment requests said node device to respond the position information which is closest to said requested accuracy,

wherein the fourth class of treatment requests said node device to respond the position information which is closest to said requested freshness, and

wherein, if the position information which satisfies both the requested accuracy and the requested freshness does not exist, said node device responds the position information to said external client device based on priority information showing whether the freshness or the accuracy is prioritized.

39. (original) The positioning system in the mobile communication network according to claim 38, wherein, when said positioning system in said mobile communication network is set in such a way that said priority information gives a high priority to the accuracy, said node device responds the position information with the highest accuracy to said external client device.

40. (original) The positioning system in the mobile communication network according to claim 38, wherein, when said positioning system in said mobile communication network is set in such a way that said priority information gives a high priority to the freshness, said node device responds the position information with the newest freshness to said external client device.

41. (previously presented) A positioning method in a mobile communication network that provides position information for a positioning target in response to a positioning request from an external client device, wherein the response of the position

information to said external client device is generated based on request accuracy information that specifies a requested accuracy and request accuracy request class information that designates a class of treatment when the requested accuracy is not available, in which a first class of treatment specifies that an error is to be sent and a second class of treatment specifies that best available position information is to be sent.

42. (previously presented) A positioning method in a mobile communication network that provides position information for a positioning target in response to a positioning request from an external client device, wherein the response of the position information to said external client device is generated based on request freshness information that specifies a requested freshness and request freshness request class information that designates a class of treatment when the requested freshness is not available, in which a first class of treatment specifies that an error is to be sent and a second class of treatment specifies that best available position information is to be sent.

43. (previously presented) A positioning method in a mobile communication network that provides position information for a positioning target in response to a positioning request from an external client device, wherein the response of the position information to said external client device is generated based on request accuracy information that specifies a requested accuracy and request accuracy request class information that designates a class of treatment when the requested accuracy is not available,

in which a first class of treatment specifies that an error is to be sent and a second class of treatment specifies that best available position information is to be sent, and request freshness information that specifies a requested freshness and request freshness request class information that designates a class of treatment when the requested freshness is not available, in which a third class of treatment specifies that an error is to be sent and a fourth class of treatment specifies that best available position information is to be sent.

44. (previously presented) A positioning server device in a mobile communication network that provides position information for a positioning target in response to a positioning request from an external client device, the positioning server device in the mobile communication network comprising:

a positioning response generation function unit which generates a response with the position information to said external client device based on request accuracy information that specifies a requested accuracy and request accuracy request class information that designates a class of treatment when the requested accuracy is not available, in which a first class of treatment specifies that an error is to be sent and a second class of treatment specifies that best available position information is to be sent.

45. (canceled)

46. (previously presented) The positioning server device in the mobile communication network according to claim 44, further

comprising a storage function unit which stores said request accuracy request class information for each said external client device.

47. (previously presented) The positioning server device in the mobile communication network according to claim 44, further comprising a receiving function unit which receives said request accuracy request class information transmitted by said external client together with the positioning request.

48. (previously presented) The positioning server device in the mobile communication network according to claim 44, further comprising a storage function unit which stores said request accuracy request class information for each said external client device;

a receiving function unit which receives said request accuracy request class information transmitted by said external client together with the positioning request; and

a merge function unit which, if said receiving function unit has received said request accuracy request class information transmitted by said external client together with the positioning request, selects said received request class information, and which, if said receiving function unit has not received said request accuracy request class information, selects said request accuracy request class information already stored in said storage function unit.

49. (previously presented) A positioning server device in a mobile communication network that provides position information

for a positioning target in response to a positioning request from an external client device, the positioning server device in the mobile communication network comprising:

a positioning response generation function unit which generates a response with the position information to said external client device based on request freshness information that specifies a requested freshness and request freshness request class information that designates a class of treatment when the requested freshness is not available, in which a first class of treatment specifies that an error is to be sent and a second class of treatment specifies that best available position information is to be sent.

50. (canceled)

51. (previously presented) The positioning server device in the mobile communication network according to claim 49, further comprising a storage function unit which stores said request freshness request class information for each said external client device.

52. (previously presented) The positioning server device in the mobile communication network according to claim 49, further comprising a receiving function unit which receives said request freshness request class information transmitted by said external client together with the positioning request.

53. (previously presented) The positioning server device in the mobile communication network according to claim 49, further comprising a storage function unit which stores said request

freshness request class information for each said external client device;

a receiving function unit which receives said request freshness request class information transmitted by said external client together with the positioning request; and

a merge function unit which, if said receiving function unit has received said request freshness request class information transmitted by said external client together with the positioning request, selects said received request class information, and which, if said receiving function unit has not received said request freshness request class information, selects request freshness request class information already stored in said storage function unit.

54. (previously presented) A computer-readable data recording medium storing a program executed by a positioning server device in a mobile communication network that provides position information for a positioning target in response to a positioning request from an external client device, the program comprising:

a positioning response generation process of generating the response of the position information to said external client device based on request accuracy information that specifies a requested accuracy and request accuracy request class information that designates a class of treatment when the requested accuracy is not available, in which a first class of treatment specifies



that an error is to be sent and a second class of treatment specifies that best available position information is to be sent.

55. (previously presented) A computer-readable data recording medium storing a program executed by a positioning server device in a mobile communication network that provides position information for a positioning target in response to a positioning request from an external client device, the program comprising:

a positioning response generation process of generating the response of the position information to said external client device based on request freshness information that specifies a requested freshness and request freshness request class information that designates a class of treatment when the requested freshness is not available, in which a first class of treatment specifies that an error is to be sent and a second class of treatment specifies that best available position information is to be sent.

56. (previously presented) A server of a mobile communication system including a mobile station, comprising:

a positioning request processing means which receives a positioning request which requests position information of said mobile station;

a storage means which holds request positioning accuracy that specifies a requested accuracy and a positioning accuracy request level that designates a level of treatment when the requested accuracy is not available, in which a first level of

treatment specifies that an error is to be sent and a second level of treatment specifies that best available position information is to be sent; and

a transmission means which transmits one of said position information and error notification in accordance with said request positioning accuracy and said request level as a response to said positioning request.

57. (canceled)

58. (previously presented) The server according to claim 56, wherein said mobile communication system comprises a regional area network and a management device which communicates with said regional area network, and

wherein said positioning request processing means carries out positioning processing for obtaining said position information of said mobile station in cooperation with said management device.

59. (previously presented) The server according to claim 58, wherein said positioning request processing means receives said position information from said management device.

60. (previously presented) The server according to claim 58, wherein said positioning processing is any one of A-GPS positioning processing, Cell-ID positioning processing, and OTDOA positioning processing.

61. (previously presented) The server according to claim 58, wherein said transmission means transmits said error

notification, if said positioning request processing means has failed in obtaining said position information.

62. (previously presented) The server according to claim 56, wherein said mobile communication system comprises a client device, and

wherein said positioning request processing means receives said positioning request from said client device, and transmits one of said position information and the error notification to said client device.

63. (previously presented) The server according to claim 62, wherein said positioning request processing means receives at least one of said request positioning accuracy and said request level from said client device.

64. (previously presented) A client device of a mobile communication system comprised of a mobile station and a server, the client device comprising:

a transmission means which transmits a positioning request which requests position information of said mobile station; and

a receiving means which receives one of the position information of said mobile station and error notification from said server in accordance with request positioning accuracy that specifies a requested accuracy and a positioning accuracy request level as a response to said positioning request, the positioning accuracy request level designating a level of treatment when the requested accuracy is not available, in which a first level of treatment specifies that an error is to be sent and a second

level of treatment specifies that best available position information is to be sent.

65. (canceled)

66. (previously presented) The client device according to claim 64, wherein said mobile communication system comprises a regional area network and a management device which communicates with said regional area network, and

wherein the position information in said server is obtained by positioning processing carried out through cooperation of said server and said management device.

67. (previously presented) The client device according to claim 66, wherein the position information in said server is received by said server from said management device.

68. (previously presented) The client device according to claim 66, wherein said positioning processing is any one of A-GPS positioning processing, Cell-ID positioning processing, and OTDOA positioning processing.

69. (previously presented) The client device according to claim 66 comprising:

receiving said error notification, if said server and said management device have failed in obtaining said position information.

70. (previously presented) The client device according to claim 64, wherein said transmission means transmits at least one of said request positioning accuracy and said request level to said server.

71. (previously presented) A mobile station of a mobile communication system comprised of a server, a regional area network, and a management device which communicates with said regional area network, the mobile station comprising:

a radio communication means which communicates with said regional area network; and

a positioning processing means which carries out positioning processing for obtaining position information of said mobile station in cooperation with said regional area network, said management device, and said server in response to a positioning request from said server,

wherein one of said position information and error notification is transmitted from said server in accordance with request positioning accuracy that specifies a requested accuracy and a positioning accuracy request level that designates a level of treatment when the requested accuracy is not available, in which a first level of treatment specifies that an error is to be sent and a second level of treatment specifies that best available position information is to be sent.

72. (canceled)

73. (previously presented) The mobile station according to claim 71, wherein said positioning processing is any one of A-GPS positioning processing, Cell-ID positioning processing, and OTDOA positioning processing.

74. (previously presented) The mobile station according to claim 71, wherein said error notification is transmitted from said server, if obtaining said position information has failed.

75. (previously presented) The mobile station according to claim 71, wherein said mobile communication system comprises a client device which communicates with said server device, and wherein one of said position information and the error notification is transmitted from said server to said client device.

76. (previously presented) A mobile communication system comprised of a server, a mobile station, a regional area network, and a management device which communicates with said regional area network,

wherein said server receives a positioning request which requests position information of said mobile station, holds request positioning accuracy that specifies a requested accuracy and a positioning accuracy request level that designates a level of treatment when the requested accuracy is not available, in which a first level of treatment specifies that an error is to be sent and a second level of treatment specifies that best available position information is to be sent, and transmits one of said position information and error notification in accordance with said request positioning accuracy and said request level as a response to said positioning request, and

wherein said server, said mobile station, said regional area network, and said management device cooperate to carry out positioning processing for obtaining said position information.

77. (canceled)

78. (previously presented) A control method in a mobile communication system comprised of a mobile station and a server, the control method comprising:

receiving a positioning request which requests position information of said mobile station;

holding request positioning accuracy that specifies a requested accuracy and a positioning accuracy request level that designates a level of treatment when the requested accuracy is not available, in which a first level of treatment specifies that an error is to be sent and a second level of treatment specifies that best available position information is to be sent; and

transmitting one of said position information and error notification in accordance with said request positioning accuracy and said request level as a response to said positioning request.

79. (previously presented) A control method in a mobile communication system comprised of a mobile station and a server, the control method comprising:

receiving a positioning request which requests position information of said mobile station;

holding request positioning accuracy that specifies a requested accuracy and a positioning accuracy request level that designates a level of treatment when the requested accuracy is

not available, in which a first level of treatment specifies that an error is to be sent and a second level of treatment specifies that best available position information is to be sent; and

transmitting one of said position information and error notification in accordance with said request positioning accuracy and said request level as a response to said positioning request.

80. (previously presented) A control method in a mobile communication system comprised of a mobile station, a server, a regional area network, and a management device which communicates with said regional area network, the control method comprising:

communicating with said regional area network by radio; and

carrying out positioning processing for obtaining position information of said mobile station in cooperation with said regional area network, said management device, and said server in response to a positioning request from said server,

wherein one of said position information and error notification is transmitted from said server in accordance with request positioning accuracy and a positioning accuracy request level stored in said server, the positioning accuracy request level designating a level of treatment when the requested accuracy is not available, in which a first level of treatment specifies that an error is to be sent and a second level of treatment specifies that best available position information is to be sent.

81. (previously presented) A control method in a mobile communication system comprised of a server, a mobile station, a



regional area network, and a management device which communicates with said regional area network, the control method comprising:

receiving a positioning request which requests position information of said mobile station;

holding request positioning accuracy that specifies a requested accuracy and a positioning accuracy request level that designates a level of treatment when the requested accuracy is not available, in which a first level of treatment specifies that an error is to be sent and a second level of treatment specifies that best available position information is to be sent;

carrying out positioning processing for obtaining said position information in cooperation with said server, said mobile station, said regional area network, and said management device, and

transmitting one of said position information and error notification from the server in accordance with said request positioning accuracy and said request level as a response to said positioning request.

82. (cancelled)